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EXAMINER	
RASHID, DAVID	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/767,017	MIYAZAWA ET AL.	
	Examiner	Art Unit	
	DAVID P. RASHID	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 March 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 October 2007* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

[1] All of the examiner's suggestions presented herein below have been assumed for examination purposes, unless otherwise noted.

Continued Examination Under 37 CFR 1.114

[2] A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 5, 2008 has been entered.

Amendments

[3] This office action is responsive to the claim and specification amendment received on March 5, 2008. Claims 1-17 remain pending; Claim 17 new.

Drawings

[4] Though the Applicant has submitted an informal set of drawings showing where the corrections were made, the Examiner has not received formal replacement sheets on the record and the drawing objections still stand.

[5] The following is a quote from 37 CFR 1.84(q):

> Lead lines are those lines between the reference characters and the details referred to. Such lines may be straight or curved and should be as short as possible. They must originate in the immediate proximity of the reference character and extend to the feature indicated.

[6] Fig. 3 and fig. 4 are objected to under 37 CFR 1.84(q) for failing to properly use lead lines when necessary. It is suggested to connect items 120 through 123 to their respective detailed referred to by using lead lines.

[7] Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

[8] In response to applicant's claim objections amendments and remarks received on March 5, 2008, the previous claim objections are withdrawn.

Claim Rejections - 35 USC § 102

[9] The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

[10] **Claims 1, 3, 5, 9, 11, 13,** and **17** are rejected under 35 U.S.C. 102(b) as being anticipated by *Skodras et al.* (The JPEG 2000 Still Image Compression Standard, IEEE Signal Processing Magazine, Sept 2001, p. 36-58) [*hereinafter* "Skodras et al."].

Regarding **claim 1**, *Skodras et al.* teaches an image processing apparatus ("computer" in left column, p. 38; fig. 2, p. 38) for hierarchically compressing ("Compressed Image Data" in fig. 2, p. 38) and coding ("Entropy Encoding" in fig. 2, p. 38) image data by subjecting pixel values of the image data ("Source Image Data" in fig. 2, p. 38) to a discrete wavelet transform ("Forward Transform" in fig. 2, p. 38; "[p]rior to computation of the forward discrete wavelet transform (DWT)…", left column, p. 40), quantization and coding for each of one or a plurality of rectangular regions into which the image data is divided ("The image components are (optionally) decomposed into rectangular tiles.", left column, p. 39; Image Tiling Section, right column, p. 39), the image processing comprising:

a hierarchical coding unit (unit responsible for producing the packet stream in fig. 11 in p. 45) to compress and code the image data in a state where the image data is divided for each hierarchical region (fig. 11, p. 45; "DWT on Each Tile" in fig. 3, p. 39 wherein the hierarchical regions are the image component itself (level -1), tiles (level 0), precinct (level 1), and code blocks (level 2)), to obtain compressed codes ("Code Stream" in fig. 11, p. 45), wherein the hierarchical coding unit comprises:

a first-level coding unit (coding unit responsible for coding all of the hierarchy levels in fig. 11) to receive the image data ("Image Component" and "Code Stream" in fig. 11) and to create the compressed codes of a first hierarchical layer (tiles (level 0) in fig. 11); and

a second-level coding unit (coding unit responsible for coding all of the hierarchy levels in fig. 11, whether or not it is the same or a different coding unit to the first coding unit) to receive a sub-band (the sub-band of the tile "layer" creates the whole precinct ("packet") as shown in fig. 11 by dashed lines on the right side) of the first hierarchical layer from the first-level coding unit and to create the compressed codes of a second hierarchical layer (precinct (level 1) in fig. 11), wherein the second hierarchical layer is a lower hierarchical layer than the first hierarchical layer (the precincts are at a lower hierarchical layer than tiles in fig. 11); and

a distributively storing unit ("Store and Transmit" in fig. 2, p. 38) to distributively store (fig. 11, p. 45 wherein each tile layer is a separate portion in the code stream) the compressed codes which are divided for each hierarchical layer by the hierarchical coding unit into a storage unit (it is implicit if not already inherent that the image processing apparatus computer of *Skodras et al.* has a memory storage unit), wherein the distributively storing unit comprises:

a first-level storing unit (those memory addresses responsible for storing the first hierarchical layer in the "[c]ode [s]tream" in fig. 11, and thus all hierarchical layers contained in those memory addresses) to store the compressed codes of the first hierarchical layer (tiles (level 0) in fig. 11); and

a second-level storing unit (those memory addresses responsible for storing the second hierarchical layer in the "[c]ode [s]tream" in fig. 11, and thus all hierarchical layers contained in those memory addresses) to separately store the compressed codes of the second hierarchical layer

(precinct (level 1) in fig. 11) from the compressed codes of the first hierarchical layer (tiles (level 0) in fig. 11), wherein the second-level storing unit (those memory addresses responsible for storing the second hierarchical layer in the "[c]ode [s]tream" in fig. 11, and thus all hierarchical layers contained in those memory addresses) is physically separate (addresses in the memory storing the first hierarchical layer are "physically separate" from the addresses in the memory storing the second hierarchical layer) from the first-level storing unit (those memory addresses responsible for storing the first hierarchical layer in the "[c]ode [s]tream" in fig. 11, and thus all hierarchical layers contained in those memory addresses).

<u>The same argument can be applied for the first hierarchical layer being the precinct layer and the second hierarchical layer being the code block layer as shown in fig. 11, OR from tile to code block, image component to tile, image component to precinct, OR image component to code block.</u>

Regarding **claim 3**, claim 1 recites identical features as in claim 3. Thus, references/arguments equivalent to those presented above for claim 1 are equally applicable to claim 3. The means-plus-function language is anticipated by the computer hardware ("computer" in left column, p. 38; fig. 2, p. 38) of *Skodras et al.*

Regarding **claim 5**, *Skodras et al.* teaches an image processing apparatus ("computer" in left column, p. 38; fig. 2, p. 38) for hierarchically compressing ("Compressed Image Data" in fig. 2, p. 38) and coding ("Entropy Encoding" in fig. 2, p. 38) image data by subjecting pixel values of the image data ("Source Image Data" in fig. 2, p. 38) to a discrete wavelet transform ("Forward Transform" in fig. 2, p. 38; "[p]rior to computation of the forward discrete wavelet transform (DWT)…", left column, p. 40), quantization and coding for each of one or a plurality of rectangular

regions into which the image data is divided ("The image components are (optionally) decomposed into rectangular tiles.", left column, p. 39; Image Tiling Section, right column, p. 39), the image processing comprising:

a rectangular region coding unit ("Tiling" in fig. 3, p. 39) to compress and code the image data in a state where the image data is divided for each rectangular region ("DWT on Each Tile" in fig. 3, p. 39; "All operations, including component mixing, wavelet transform, quantization and entropy coding are performed independently on the image tiles (fig. 3).", right column, p. 39), to obtain compressed codes, wherein the rectangular region coding unit creates compressed codes for a first rectangular (tiles (level 0) in fig. 11; a rectangular region as evident in fig. 9 and fig. 3) and creates compressed codes for a second rectangular region (precinct (level 1) in fig. 11; a rectangular region as evident in fig. 9 ad fig. 3); and

a distributively storing unit ("Store and Transmit" in fig. 2, p. 38) to distributively store (fig. 11, p. 45 wherein each tile layer is a separate portion in the code stream) the compressed codes which are divided for each rectangular region by the rectangular region coding unit, wherein the distributively storing unit comprises:

a first storing unit (those memory addresses responsible for storing the first hierarchical layer in the "[c]ode [s]tream" in fig. 11, and thus all hierarchical layers contained in those memory addresses) to store the compressed codes of the first rectangular region; and

a second storing unit (those memory addresses responsible for storing the second hierarchical layer in the "[c]ode [s]tream" in fig. 11, and thus all hierarchical layers contained in those memory addresses) to separately store the compressed codes of the second rectangular region (precinct (level 1) in fig. 11; a rectangular region as evident in fig. 9 ad fig. 3) from the compressed

codes of the first rectangular region (tiles (level 0) in fig. 11; a rectangular region as evident in fig. 9 and fig. 3), wherein the second storing unit (those memory addresses responsible for storing the second hierarchical layer in the "[c]ode [s]tream" in fig. 11, and thus all hierarchical layers contained in those memory addresses) is separate (addresses in the memory storing the first hierarchical layer are "physically separate" from the addresses in the memory storing the second hierarchical layer) from the first storing unit (those memory addresses responsible for storing the first hierarchical layer in the "[c]ode [s]tream" in fig. 11, and thus all hierarchical layers contained in those memory addresses).

Regarding **claim 9**, claim 5 recites identical features as in claim 9. Thus, references/arguments equivalent to those presented above for claim 5 are equally applicable to claim 9. The means-plus-function language is anticipated by the computer hardware ("computer" in left column, p. 38; fig. 2, p. 38) of *Skodras et al.*.

Regarding **claim 11**, claim 1 recites identical features as in claim 11. Thus, references/arguments equivalent to those presented above for claim 1 are equally applicable to claim 11.

Regarding **claim 13**, claim 5 recites identical features as in claim 13. Thus, references/arguments equivalent to those presented above for claim 5 are equally applicable to claim 13.

Regarding **claim 17**, *Skodras et al.* teaches an image processing apparatus ("computer" in left column, p. 38; fig. 2, p. 38) for hierarchically compressing ("Compressed Image Data" in fig. 2, p. 38) and coding ("Entropy Encoding" in fig. 2, p. 38) for each one or a plurality of rectangular regions ("DWT on Each Tile" in fig. 3, p. 39; "All operations, including component mixing,

wavelet transform, quantization and entropy coding are performed independently on the image tiles (Fig. 3).", right column, p. 39) into which the image data by subjecting pixel values of the image data ("Source Image Data" in fig. 2, p. 38) to a discrete wavelet transform ("Forward Transform" in fig. 2, p. 38; "[p]rior to computation of the forward discrete wavelet transform (DWT)...", left column, p. 40), quantization and coding for each of one or a plurality of rectangular regions into which the image data is divided ("The image components are (optionally) decomposed into rectangular tiles.", left column, p. 39; Image Tiling Section, right column, p. 39), the image processing comprising:

a hierarchical coding unit (unit responsible for producing the packet stream in fig. 11 in p. 45) to compress and code the image data in a state where the image data is divided for each hierarchical region (fig. 11, p. 45; "DWT on Each Tile" in fig. 3, p. 39 wherein the hierarchical regions are the image component itself (level -1), tiles (level 0), precinct (level 1), and code blocks (level 2)), to obtain compressed codes ("Code Stream" in fig. 11, p. 45), wherein the hierarchical coding unit comprises:

a first-level coding unit (coding unit responsible for coding all of the hierarchy levels in fig. 11) to receive the image data ("Image Component" and "Code Stream" in fig. 11) and to create the compressed codes of a first hierarchical layer (tiles (level 0) in fig. 11); and

a second-level coding unit (coding unit responsible for coding all of the hierarchy levels in fig. 11, whether or not it is the same or a different coding unit to the first coding unit) to receive a sub-band (the sub-band of the tile "layer" creates the whole precinct ("packet") as shown in fig. 11 by dashed lines on the right side) of the first hierarchical layer from the first-level coding unit and to create the compressed codes of a second hierarchical layer (precinct (level 1) in fig. 11), wherein

the second hierarchical layer is a lower hierarchical layer than the first hierarchical layer (the precincts are at a lower hierarchical layer than tiles in fig. 11); and

a distributively storing unit ("Store and Transmit" in fig. 2, p. 38) to distributively store (fig. 11, p. 45 wherein each tile layer is a separate portion in the code stream) the compressed codes which are divided for each hierarchical layer by the hierarchical coding unit into a storage unit (it is implicit if not already inherent that the image processing apparatus computer of *Skodras et al.* has a memory storage unit), wherein the distributively storing unit comprises:

a first-level storing unit (those memory addresses responsible for storing the first hierarchical layer in the "[c]ode [s]tream" in fig. 11, and thus all hierarchical layers contained in those memory addresses) to only receive the compressed codes (those memory addresses responsible for storing the first hierarchical layer only receive those codes to store) of the first hierarchical layer (tiles (level 0) in fig. 11) from the first-level coding unit (tiles (level 0) in fig. 11) and to store the compressed codes of the first hierarchical layer (tiles (level 0) in fig. 11); and

a second-level storing unit (those memory addresses responsible for storing the second hierarchical layer in the "[c]ode [s]tream" in fig. 11, and thus all hierarchical layers contained in those memory addresses) to only receive the compressed codes (those memory addresses responsible for storing the first hierarchical layer only receive those codes to store) of the second hierarchical layer (precinct (level 1) in fig. 11) from the compressed codes of the first hierarchical layer (tiles (level 0) in fig. 11), wherein the second-level storing unit (those memory addresses responsible for storing the second hierarchical layer in the "[c]ode [s]tream" in fig. 11, and thus all hierarchical layers contained in those memory addresses) is physically separate (addresses in the memory storing the first hierarchical layer are "physically separate" from the addresses in the

memory storing the second hierarchical layer) from the first-level storing unit (those memory addresses responsible for storing the first hierarchical layer in the "[c]ode [s]tream" in fig. 11, and thus all hierarchical layers contained in those memory addresses).

<u>The same argument can be applied for the first hierarchical layer being the precinct layer and the second hierarchical layer being the code block layer as shown in fig. 11, OR from tile to code block, image component to tile, image component to precinct, OR image component to code block.</u>

Claim Rejections - 35 USC § 103

[11] The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

[12] **Claims 2, 4, 7, 10, 12,** and **15** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Skodras et al.* in view of *<u>Qian et al.</u>*, U.S. Patent No. 6,070,167 (issued May 30, 2000) [*hereinafter* "Qian et al."].

Regarding **claim 2**, while *Skodras et al.* teaches an image processing apparatus ("computer" in left column, p. 38; fig. 2, p. 38) for hierarchically compressing ("Compressed Image Data" in fig. 2, p. 38) and coding ("Entropy Encoding" in fig. 2, p. 38) image data by subjecting pixel values of the image data ("Source Image Data" in fig. 2, p. 38) to a discrete wavelet transform ("Forward Transform" in fig. 2, p. 38; "[p]rior to computation of the forward discrete wavelet transform (DWT)...", left column, p. 40), quantization and coding for each of one or a plurality of rectangular regions into which the image data is divided ("The image components are (optionally) decomposed

into rectangular tiles.", left column, p. 39; Image Tiling Section, right column, p. 39), the image processing apparatus forming an electronic equipment (the computer to execute fig. 2, p. 38 forms electronic equipment) and comprising:

a hierarchical coding unit (unit responsible for producing the packet stream in fig. 11 in p. 45) to compress and code the image data in a state where the image data is divided for each hierarchical region (fig. 11, p. 45; "DWT on Each Tile" in fig. 3, p. 39 wherein the hierarchical regions are the tiles (level 0), precinct (level 1), and code blocks (level 2)), to obtain compressed codes ("Code Stream" in fig. 11, p. 45); and

a distributively storing unit ("Store and Transmit" in fig. 2, p. 38) to distributively store (fig. 11, p. 45 wherein each tile layer is a separate portion in the code stream) the compressed codes for each hierarchical layer separately by hierarchical layer (each hierarchical layer is stored in the addresses of memory, each address being physically separate from each other, *see* Claim 1 argument) into a storage unit (it is implicit if not already inherent that the image processing apparatus computer of *Skodras et al.* has a memory storage unit), *Skodras et al.* does not teach

(i) electronic equipment which is coupled to a network having other electronic equipments coupled thereto; and

(ii) distributively storing information into a storage unit of each of the other electronic equipments.

Qian et al. discloses a hierarchical method and system for object-based audiovisual descriptive tagging of images for information retrieval, editing, and manipulation (fig. 1) that teaches

(i) electronic equipment ("computer" in 2:58-67; fig. 1, items 12, 14, 15, 16, 17, 20) which is coupled to a network (fig. 1, item 18) having other electronic equipments coupled thereto (a computer network is by definition composed of multiple computers being connected together using a telecommunication system for the purpose of sharing data, resources, and communication); and

(ii) distributively storing information into a storage unit of each of the other electronic equipments (3:31-34).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the electronic equipment of *Skodras et al.* to include having other electronic equipments coupled thereto as taught by *Qian et al.* and the distributively storing unit of *Skodras et al.* to include storing the hierarchical layered compressed codes as taught by *Qian et al.* "...to develop a hierarchical data structure and method that enables association of descriptive data in an image.", *Qian et al.*, 1:59-61 and "to provide a system and method where the descriptive data may be specific to objects in the image and may include textual information, links to other files, other objects within the same image or other images, or links to web pages, and object features, such as shape, and audio annotation.", *Qian et al.*, 1:62-67.

Regarding **claim 4**, claim 2 recites identical features as in claim 4. Thus, references/arguments equivalent to those presented above for claim 2 are equally applicable to claim 4. The means-plus-function language is anticipated by the computer hardware ("computer" in left column, p. 38; fig. 2, p. 38) of *Skodras et al.*.

Regarding **claim 7**, while *Skodras et al.* teaches an image processing apparatus ("computer" in left column, p. 38; fig. 2, p. 38) for hierarchically compressing ("Compressed Image Data" in fig. 2, p. 38) and coding ("Entropy Encoding" in fig. 2, p. 38) image data by subjecting pixel values of

the image data ("Source Image Data" in fig. 2, p. 38) to a discrete wavelet transform ("Forward Transform" in fig. 2, p. 38; "[p]rior to computation of the forward discrete wavelet transform (DWT)…", left column, p. 40), quantization and coding for each of one or a plurality of rectangular regions into which the image data is divided ("The image components are (optionally) decomposed into rectangular tiles.", left column, p. 39; Image Tiling Section, right column, p. 39), the image processing apparatus forming an electronic equipment (the computer to execute fig. 2, p. 38 forms electronic equipment) and comprising:

a rectangular region coding unit ("Tiling" in fig. 3, p. 39) to compress and code the image data in a state where the image data is divided for each rectangular region ("DWT on Each Tile" in fig. 3, p. 39; "All operations, including component mixing, wavelet transform, quantization and entropy coding are performed independently on the image tiles (Fig. 3).", right column, p. 39), to obtain compressed codes ("Code Stream" in fig. 11, p. 45); and

a distributively storing unit ("Store and Transmit" in fig. 2, p. 38) to distributively store (fig. 11, p. 45 wherein each tile layer is a separate portion in the code stream) the compressed codes for each rectangular region separately by rectangular region (each hierarchical layer is stored in the addresses of memory, each address being physically separate from each other, *see* Claim 1 argument) into a storage unit (it is implicit if not already inherent that the image processing apparatus computer of *Skodras et al.* has a memory storage unit), *Skodras et al.* does not teach

(i) electronic equipment which is coupled to a network having other electronic equipments coupled thereto; and

(ii) distributively storing information into a storage unit of each of the other electronic equipments.

Qian et al. et al. discloses a hierarchical method and system for object-based audiovisual descriptive tagging of images for information retrieval, editing, and manipulation (fig. 1) that teaches

(i) electronic equipment ("computer" in 2:58-67; fig. 1, items 12, 14, 15, 16, 17, 20) which is coupled to a network (fig. 1, item 18) having other electronic equipments coupled thereto (a computer network is by definition composed of multiple computers being connected together using a telecommunication system for the purpose of sharing data, resources, and communication); and

(ii) distributively storing information into a storage unit of each of the other electronic equipments (3:31-34).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the electronic equipment of *Skodras et al.* to include having other electronic equipments coupled thereto as taught by *Qian et al.* and the distributively storing unit of *Skodras et al.* to include storing the hierarchical layered compressed codes as taught by *Qian et al.* "…to develop a hierarchical data structure and method that enables association of descriptive data in an image.", *Qian et al.*, 1:59-61 and "to provide a system and method where the descriptive data may be specific to objects in the image and may include textual information, links to other files, other objects within the same image or other images, or links to web pages, and object features, such as shape, and audio annotation.", *Qian et al.*, 1:62-67.

Regarding **claim 10**, claim 7 recites identical features as in claim 10. Thus, references/arguments equivalent to those presented above for claim 7 are equally applicable to claim 10. The means-plus-function language is anticipated by the computer hardware ("computer" in left column, p. 38; fig. 2, p. 38) of *Skodras et al.*.

Regarding **claim 12**, claim 2 recites identical features as in claim 12. Thus, references/arguments equivalent to those presented above for claim 2 are equally applicable to claim 12.

Regarding **claim 15**, claim 7 recites identical features as in claim 15. Thus, references/arguments equivalent to those presented above for claim 7 are equally applicable to claim 15.

[13] **Claims 6** and **14** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Skodras et al.* in view of U.S. Pub. No. 2002/0091665 (filed Jun. 15, 2001) (published Jul. 11, 2002) [*hereinafter* "Beek et al."].

Regarding **claim 6**, while *Skodras et al.* discloses the image processing apparatus as claimed in claim 5, though *Skodras et al.* hints at other forms of decomposition (besides tiles) citing "The image components are (optionally) decomposed into rectangular tiles. The tile-component is the basic unit of the original or reconstructed image.", left column, p. 39), *Skodras et al.* does not teach wherein the rectangular region coding unit compresses and codes the image data with a decomposition level dependent on a type of the image data, a type of region of the image data, a type of source electronic equipment of the image data, or an external instruction.

Beek et al. discloses metadata in JPEG 2000 file format that teaches "external instruction" with use of the functions SegmentDecomposition Decomposition, DecompositionDataType Datatype and DecompositionType Attribute (¶¶ 0036-0038).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for rectangular region coding unit as taught by *Skodras et al.* to compress and code the image data with a decomposition level dependent on external instruction as taught by *Beek et al.* "...so

that all complaint JPEG2000 viewers will be able to render the image in a proper manner and in addition process the additional information, if desired.", *Beek et al.*, ¶ 0016.

Regarding **claim 14**, claim 6 recites identical features as in claim 14. Thus, references/arguments equivalent to those presented above for claim 6 are equally applicable to claim 14.

[14] **Claims 8** and **16** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Skodras et al.* in view of *Qian et al.* and *Beek et al.*

Regarding **claim 8**, claim 6 recites identical features as in claim 8. Thus, references/arguments equivalent to those presented above for claim 6 are equally applicable to claim 8.

Regarding **claim 16**, claim 6 recites identical features as in claim 16. Thus, references/arguments equivalent to those presented above for claim 6 are equally applicable to claim 16.

Response to Arguments

[15] Applicant's arguments filed on March 5, 2008 with respect to independent claims 1-17 have been respectfully and fully considered, but they are not found persuasive.

[16] Summary of Remarks regarding claims 1, 3, 5, 9, 11, and 13:

Applicant argues that claim 1 has been amended to preclude such interpretation of the claim. In particular, the second-level storing unit of claim 1 separately stores the compressed codes of the second hierarchical layer from the compressed codes of the first hierarchical layer. As such, Applicant respectfully submits that *Skodras et al.* does not disclose all the limitations of the claim. (Applicant Resp. at 13, Mar. 5, 2008.)

[17] Examiner's Response regarding claims 1, 3, 5, 9, 11, and 13:

However, *Skodras et al.* does disclose a first-level storing unit (those memory addresses responsible for storing the first hierarchical layer in the "[c]ode [s]tream" in fig. 11, and thus all hierarchical layers contained in those memory addresses) and a second-level storing unit (those memory addresses responsible for storing the second hierarchical layer in the "[c]ode [s]tream" in fig. 11, and thus all hierarchical layers contained in those memory addresses) to separately store the compressed codes of the second hierarchical layer (precinct (level 1) in fig. 11) from the compressed codes of the first hierarchical layer (tiles (level 0) in fig. 11), wherein the second-level storing unit (those memory addresses responsible for storing the second hierarchical layer in the "[c]ode [s]tream" in fig. 11, and thus all hierarchical layers contained in those memory addresses) is physically separate (addresses in the memory storing the first hierarchical layer are "physically separate" from the addresses in the memory storing the second hierarchical layer) from the first-level storing unit (those memory addresses responsible for storing the first hierarchical layer in the "[c]ode [s]tream" in fig. 11, and thus all hierarchical layers contained in those memory addresses).

When breaking memory down, memory is composed of smaller memory in the form of physical addresses, each being physically separate from one another. Those memory addresses that exclusively are intended to store the first hierarchical layer are physically separate from those memory addresses that exclusively intended to store the second hierarchical layer. The claim language is broad enough to hold this interpretation.

Claims 3, 5, 9, 11, and 13 are not patentable over the cited reference for similar reasons described above with respect to claim 1.

[18] Summary of Remarks regarding claims 2, 4, 7, 10, 12, and 15:

Applicant argues that although *Qian et al.* discloses a memory unit, such as a memory in an electronic camera, or in a server, *Qian et al.* only discloses initially transmitting the image data and the base layer, and separately transmitting the second layer upon selection from the user in the networking application. *Qian et al.*, however, fails to disclose a distributively storing unit that distributively stores compressed codes for each hierarchical layer separately by hierarchical layer into a storage unit of each of the other electronic components, as required by claim 2. As such, the cited combination fails to disclose all the limitations of claim 2. (Resp. at 15.)

Moreover, Applicant respectfully submits that the combination of cited references fails to teach or suggest a distributively storing unit to distributively store the compressed codes for each hierarchical layer *separately by hierarchical layer into a storage unit of each of the other equipment electronics.* As described above with respect to claim 1, the Office action purports that *Skodras et al.* discloses the limitations of the claims because the compressed codes that have already been divided for each hierarchical layer are each, as a whole, stored on each of the electronic equipment. Office action, mailed December 5, 2007, page 17. More specifically, the Examiner sets for the illustration that indicates that hierarchical layers 1, 2, ...N, are stored in Electronic Equipment 1, and Hierarchical layers 1, 2, ..., N are stored in Electronic Equipment 2, and so forth. Office action, mailed December 5, 2007, page 19. Applicant respectfully submits that claim 2 has been amended to preclude such interpretation of the claim. In particular, the distributively storing unit distributively stores the compressed codes for each hierarchical layer separately by hierarchical layer into a storage unit of each of the other equipment electronics. As such, Applicant respectfully submits that *Skodras et al.* fails to teach or suggest at least this limitation of the claim and that *Qian et al.* fails to cure this deficiency. (Resp. at 15-6.)

[19] Examiner's Response regarding claims 2, 4, 7, 10, 12, and 15:

The Examiner again acknowledges the Applicant's and Examiner's argument as follows:

Applicant's Argument:

Hierarchical Layer 1 → Electronic Equipment 1

Hierarchical Layer 2 → Electronic Equipment 2

...

Hierarchical Layer N→ Electronic Equipment N

Examiner's Argument

Hierarchical Layer 1, 2, ...,N ("Code Stream" in fig. 11) [already distributively storing each hierarchical layer] → Electronic Equipment 1

Hierarchical Layer 1, 2, ...,N ("Code Stream" in fig. 11) [already distributively storing each hierarchical layer]→ Electronic Equipment 2

...

Hierarchical Layer 1, 2, ...,N ("Code Stream" in fig. 11) [already distributively storing each hierarchical layer] → Electronic Equipment N

However, the "distributively storing unit to distributevely store the compressed codes for each hierarchical layer separately by hierarchical layer" is already disclosed by *Skodras et al.* for the reasons given in the argument above (i.e. the "separate address" argument). All that is needed is sending the distributevely stored by hierarchical layer code stream to separate electronic equipments to anticipate the claim.

The Examiner again believes the claim language is broad enough to encompass both interpretations and (if the Examiner interprets the claim in such a way) that the only difference between that disclosed in *Skodras et al.* and *Qian et al.* is that *Skodras et al.* is not distributing its "Code Stream" with all of the hierarchical layers to multiple electronic equipment. With this interpretation, the Examiner believes all that is needed is a reference that sends JPEG image format to multiple electronic equipment, and why it would have been obvious to do so.

Qian et al. et al. discloses a hierarchical method and system for object-based audiovisual descriptive tagging of images for information retrieval, editing, and manipulation (fig. 1) that teaches (i) electronic equipment ("computer" in 2:58-67; fig. 1, items 12, 14, 15, 16, 17, 20) which is coupled to a network (fig. 1, item 18) having other electronic equipments coupled thereto (a computer network is by definition composed of multiple computers being connected together using a telecommunication system for the purpose of sharing data, resources, and communication); and (ii) distributively storing information into a storage unit of each of the other electronic equipments (3:31-34).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the electronic equipment of *Skodras et al.* to include having other electronic equipments coupled thereto as taught by *Qian et al.* and the distributively storing unit of *Skodras et al.* to include storing the hierarchical layered compressed codes as taught by *Qian et al.* "…to develop a hierarchical data structure and method that enables association of descriptive data in an image", *Qian et al.*, 1:59-61 and "to provide a system and method where the descriptive data may be specific to objects in the image and may include textual information, links to other files, other

objects within the same image or other images, or links to web pages, and object features, such as shape, and audio annotation", *Qian et al.*, 1:62-67.

The distributively storing unit of *Qian et al.* distributively stores the prior compressed, coded, and divided (by hierarchy) codes of the "hierarchical coding unit" of *Skodras et al.*, which in essence is the equivalent to sending JPEG images to multiple electronic equipment (computers).

Claims 4, 7, 10, 12, and 15 are not patentable over the cited reference for similar reasons described above with respect to claim 2.

Conclusion

[21] The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 5878156 A; US 20020196350 A1; US 20030007687 A1; US 20030014444 A1; US 20030093227 A1; US 20030099376 A1; US 20030198402 A1.

[22] Any inquiry concerning this communication or earlier communications from the examiner should be directed to David P. Rashid whose telephone number is (571) 270-1578. The examiner can normally be reached Monday - Friday 8:30 - 17:00 ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vikkram Bali can be reached on (571) 272-7415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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